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CONSERVATIONIST

Louisiana

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Governor of Louisiana

L. D. YOUNG, Jr.
Director

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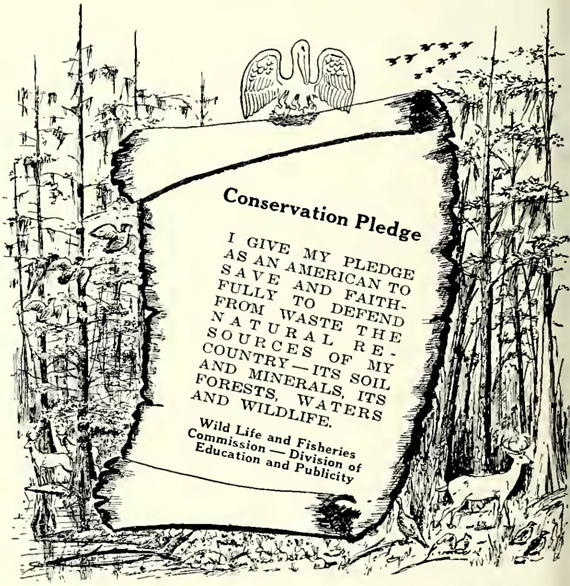

Conservation Pledge

I GIVE MY PLEDGE AS AN AMERICAN TO SAVE AND FAITHFULLY TO DEFEND FROM WASTE THE NATURAL RESOURCES OF MY COUNTRY—ITS SOIL AND MINERALS, ITS FORESTS, WATERS AND WILDLIFE.

Wild Life and Fisheries Commission — Division of Education and Publicity

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Bayou Browsing Inside Back Cover

COVER: Duane Holloway, "Willie" Willman, and Johnnie Gray, Arkansas sportsmen, with a tremendous 171-pound alligator gar taken from the lower White River. More about these fish on page 9.

Photo by Johnnie Gray.

Message from the Director . . .

L. D. Young, Jr.
Director

Louisiana
Wild Life and Fisheries Commission

"Once upon a time . . ." This is the beginning of most stories, of fairy tales and fables, and could be used truthfully in telling the story of Louisiana fur industry before . . . before our efforts to restore the fur-bearers' habitat, before our instruction to trappers in grading and storing their catches, and even before our scientific program, which is finding the answers to the alarming decline in fur populace in the marches along the Gulf Coast.

In 1945 the fur catch was valued at $15,000,000, and not until last year did it show any increase over the all-time low of $2,000,000. What has happened? Many, many factors contribute to the downfall of the muskrat, the nutria and otter. First, progress must be taken into consideration, and this we cannot halt, nor do we wish to check progress in this world of supersonic rockets and jet aircraft. We are demanding, however, that our plans be considered by construction agencies, oil companies and other industrial concerns which deface and drain our wetlands, which produce 95 percent of the fur in the nation.

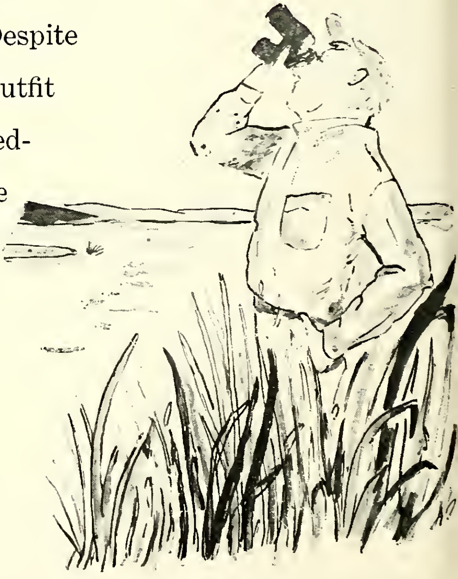
Saltwater intrusion has been the Number One Enemy of the fur animal, a menace which has destroyed or damaged the natural habitat of the marsh country furbearer. To some extent this has been checked, but there's still a battle to be waged with this opponent. Biologists and parasitologists are at work, as are marsh ecologists, finding the solution to our fur ills. The nutria, to some extent, has helped balance the trapper's family budget when the muskrat crop failed miserably; and other factors, such as the type of encouragement given the fur harvester and the setting of trapping seasons when pelts are prime, have aided in this giant restoration problem.

Scientists can't bear all of the burden;—they must have the help of mother nature, the landowner, the trapper, the buyer and the manufacturer if Louisiana is to be restored to its rightful place as the greatest fur producing area of the world.

Waterfowl Through The Winter

by
Dick Yancey

It was late August, 1954. A fisherman on Black Lake and a biologist at Pass-a-Loutre looked up to see small flocks of blue-winged teal whip in low, turn into the wind, and then settle down to rest and feed after a near non-stop flight from the prairie provinces of western Canada. Despite the hot weather the angler dropped his casting outfit and thought or blinds and decoys, for he was a dyed-in-the-wool duck hunter as well as a fisherman. He wasn't particularly surprised at the appearance of the small ducks, because he knew that they always arrived in late August. He knew, also, that these particular ducks and all the other blue-winged teal to follow in the next four or five weeks would be gone before the hunting season opened in November.



The biologist, searching through binoculars, recorded the presence of two pintails in one of the flocks and wondered as he had many times in the past why the powers-that-be didn't have an open season on these early migrants. He figured that at east one million blue-winged teal would pass through Louisiana in the next 60 days, a few in August and many thousands between September 10 and October 15. He also figured that here was a surplus that could stand at least a partial harvest.

This was the start of what might be called a waterfowl year in Louisiana. The state had produced 15,000 or so wood ducks, about 5,000 mottled ducks, and 1,000 fulvous tree ducks during the summer, but nobody had really started to think about ducks until the migrants began to arrive in August.

Blue-wings continued to swarm into the state in September and early October, bringing with them flights of green-winged teal, baldpate, pintails and shovellers. News began to leak out that a few big ducks were down, that it was time for the sports to lay down the casting rod and begin thinking about the duck hunting season ahead. As warm weather continued to persist through October, interest among the duck hunters flagged, and dry cold fronts brought little rain and no duck weather. In the meantime the heavy transient flights of blue-winged teal and baldpate and some shovellers, pintails, and green-winged teal left the state for points south and west.

On October 26 the cackling of blue and snow geese was suddenly heard by hunters in the city as well as the country from one end of the state to the other. It was time to oil the shotgun and brush the duck blind, for the shooting was to start on November 1. Hunters scattered to the lakes, sloughs and marshes with pirogues, machetes, hammers and nails to prepare for opening day. Most of the preparations proceeded according to schedule, but many hunters, arriving at their favorite hunting marsh, were shocked to find that canals had drained their shooting ponds. Only parched earth was seen where shorebirds should have been wading. Dust instead of water was eddying around their old blind site. It was then that the truth dawned upon those hunters: They no longer had a place to hunt. Duck shooting as they had known it was a thing of the past.

Others had worked while they had slept that summer. During the drive back home, they vaguely remembered that a public hearing had been held during the summer to discuss local drainage but that they had not gone. Now these hunters knew it was too late to blame anyone but themselves. Once a marsh is drained it stays drained, whether it ever produces an ear of corn, a boll of cotton, a pound of beef, or not. They also realized that they should have been arguing about something besides bag limits and seasons at the local sportsmen's meetings, for without a place to hunt it didn't matter what the seasons or bag limits were.

Within two or three days after the blue geese arrived most of the hunters were well prepared for opening day but were disturbed because they had seen no mallards or diving ducks and only a few gadwalls. On the evening of October 29 a cold front roared into Louisiana, bringing with it rain, cold, fog, and a large flight of mallards, blue geese, diving ducks and lesser puddle ducks. Following an established pattern, these flights arrived as they always had, between October 28 and November 3, and dispersed in a helter-skelter fashion over every marsh, pond, lake, slough and river in Louisiana. Concerned only about a resting-place, they quietly settled down before beginning the search for a satisfactory feeding ground. By that time, with flights still pouring in from the north, it was 12:00 noon on November 1, and a barrage of gunfire from 80,000 shotguns over the state suddenly lifted most of the 1,000,000 ducks and geese with a roar. In the confusion large numbers of young ducks settled back down towards the many clusters of objects that vaguely resembled their own kind except for the off-colors and the odd way that many were placed. The more naive birds turned toward the loud quacking and squawking that was erupted from every blind, pit, and boat. As the flocks wheeled and turned, guns began to reach out from 50 to 125 yards away, and a few ducks fell off on one wing and began to glide away in

1955-56 Waterfowl Open Season: . .
November 5-January 13, inclusive.
Bag limits same as last year. See page 10 for details.

If you hunt waterfowl, don't forget . . .

To have a "duck" stamp if you're over 16.

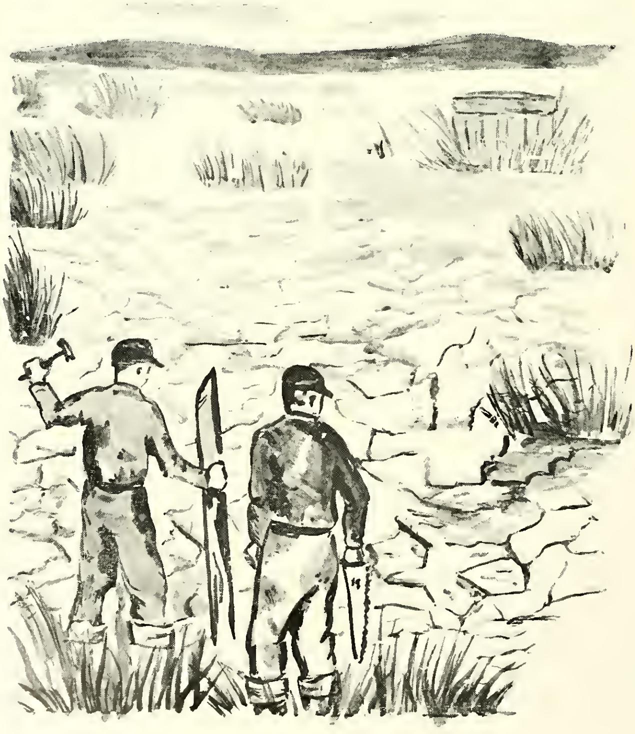
To have your pump or automatic plugged.

To stop shooting a half hour earlier.

search of cover to hide in while they recuperated or died from being crippled by "out of range" shooting. As the afternoon wore on the amateur hunters continued to bang away, the veterans raged about skybusters, and the young ducks sought out the old birds that had quickly settled into the nearest refuge or undisturbed area. During the night the ducks moved out from the refuges to feed, and during the poor light of the morning they were met by a hail of "in range" shot from the veterans as well as the amateurs. This time many ducks began to drop, and the survivors moved rapidly back to the nearest refuge for the day. The second morning was a duplication of the first, but after that the ducks developed a time sense. They learned to move quickly to their refuge each morning before daylight and stay there until night before moving out to feed again. For the next 22 days the ducks maintained this schedule, and it was only during odd periods of bad weather, or on the days when new migrants appeared, that they seemed to "fly". The veterans kept right on hunting after the opening few days, but the amateurs quit. As the first half of the season closed, the fisherman from Black Lake noticed in the newspaper that the biologist had figured from 7,500 field bag checks that the average daily kill had been 1.17 ducks per hunter per day. This had been the poorest single hunting season on record. He also read that mallards had made up 40% of the kill, green-winged teal 10%, gadwalls 9%, scaup (dosgris) 7%, pintails 6%, ring-necked ducks 5%, and shovellers 4%.

On November 30, with a five-day respite from gun pressure, the refuge hordes flocked back to use the feeding grounds during the daytime. Their numbers were soon bolstered by the arrival of a half-million new migrant mallards, pintails, gadwalls, and diving ducks from the north. The hunting season opened for the second half on December 17, and the duck population again re-shuffled its pattern of movements in a fashion identical to that established during the November hunting season. Having already selected their favorite feeding grounds, they rested in the nearest undisturbed area during the daytime and used the feeding grounds at night. Only during periods of bad weather did they venture out during shooting hours.

On January 10, the hunting season again closed, and the ducks scattered once more from the refuges, this time for good. The fisherman from Black Lake replaced the Chugger Spook, still on the line from last September, with a deep running River Runt and picked up the morning paper. Turning to the last page, he noted a small write-up quoting the biologist with saying that they had checked 5,000 Louisiana duck hunters in the field during the last half of the split season, that the hunters had aver-

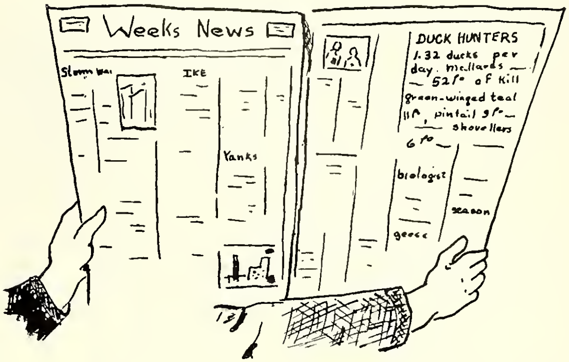


aged 1.32 ducks per day, and that mallards had made up 52% of the kill, green-winged teal 11%, pintails 9%, gadwalls 8%, scaups 5%, and shovellers 6%. He also noted that Louisiana contained 1.5 million ducks and 350,000 geese after the hunting season closed, the bulk of which were mallards, pintails, green-winged teal, and blue geese.

For the ducks and geese the major hurdle for survival was completed. Now they were faced only with the small chance of being shot by an illegal hunter, contracting lead poisoning from picking up shot while feeding, being caught in a 'rat trap, or succumbing to some disease.

The ducks dispersed widely over newly flooded feeding grounds throughout the state. They began to pair off as the instinct to migrate became stronger and stronger. This instinct, or response to survival, annually attracts these brids back towards the prairie provinces of Canada. There they find ample insect and plant food for rearing young, ideal weather conditions, practically no predators, and no extreme water fluctuations to destroy nesting attempts. Louisiana does not qualify as a nesting ground. Ducks and geese have learned this over the centuries and know that they must go north in order to rear their young successfully.

In late January some pintails, mallards, and green-winged teal began heading north to start the spring migration. Large numbers followed in February, but it was March before the gadwalls, shovellers, blue geese, baldpate, and diving ducks began to follow in quantity. March, as always, was the month of great waterfowl activity on the marshes, the rice fields, the lakes, rivers, and sloughs. Both wintering ducks and geese were leaving for the north, while transient blue-winged teal, gadwalls, shovellers and green-winged teal were appearing from the south. As spring progressed into April, only remnant flocks of wintering ducks remained, but large flights of transient blue-winged teal continued to pour into the coastal marshes throughout the month. The fisherman from Black Lake, having hunted through the winter, had witnessed the migrations and local movements without question, but he was puzzled by the blue-winged teal. He saw them disappear to the north in mid-May; he saw them reappear in mid-August heading south—the first to arrive, the last to leave. How could they make the 5,000-mile round trip, nest, and rear young in just three or four months?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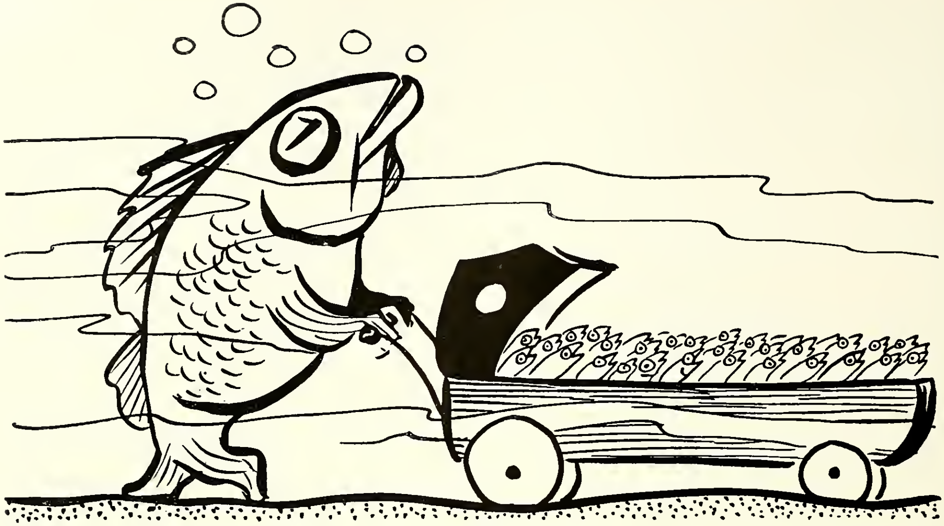
DUCK HUNTERS
1.32 ducks per day. mallards — — 52% of Kill
green-winged teal 11%, pintail 9% — — shovellers 6% —
biologist
season
geese

Louisiana had served its purpose as a wintering area for a large share of waterfowl of the Mississippi Flyway and as a transient area for numbers of waterfowl of both the Central and Pacific Flyways. It had provided ample available food and mild weather for more than eight months; it had provided more than ample protection with its refuge network of over a half-million acres of prime waterfowl habitat; and it had returned a heavy waterfowl population to Canada in good condition for bringing up numerous and healthy young.

In return, these populations had provided a basis for the finest outdoor sport known to 83,000 waterfowl hunters from Louisiana, plus a number from southeast Texas. Thousands of ducks had fallen before the guns, but natural mortality would have taken many of these birds under any circumstances. Given an even break on water conditions in the prairie pothole country of western Canada, survivors would more than replenish the supply of waterfowl during the coming nesting and rearing season.

The waterfowl winter was over in Louisiana. Resident wood ducks, mottled ducks, and fulvous tree ducks were already bringing up young throughout the state. The only waterfowl interest that would be generated this summer, however, would be when reports from the Canadian breeding grounds happened to seep out about how the mallards, pintails and lesser ducks were getting along. ★



FISH CONSERVATION FUNDAMENTALS

PART 2 --- STOCKING

by Dr. R. W. Eschmeyer

There's one basic fact that needs to be understood if we are to properly determine the role of stocking. Fish are prolific—much more prolific than most animals we deal with.

We can't give accurate figures on egg production because a big female lays far more eggs than a small female of the same species. However, in general, a trout may lay 1,000 eggs, a bass 10,000, a bluegill 20,000, a walleye 50,000, and a big carp might lay a million. Under suitable conditions, a big percentage of these eggs hatch. One study on a 14-acre lake showed that the number of fry produced naturally by four species (largemouth bass, bluegill, common sunfish, rock bass) was slightly over 500,000 per acre. The water would support only a few hundred adult fish per acre.

We have had instances where the limited brood stock present in the original river was more than adequate to provide all the young fish needed to stock big impoundments.

A big female bass in a one-acre farm pond could produce enough progeny so that, if all eggs hatched and all fish survived for three generations, there would be enough fish, at one pound each, to replace the water in the pond, and to make a heap, one acre in area, extending over 700 feet above the pond!

Obviously, fish are prolific. We can understand the picture if we will think of cows each having thousands of calves each year. If each cow had only 10,000 calves, adding a truck load of calves wouldn't increase the cattle population of a pasture very appreciably.

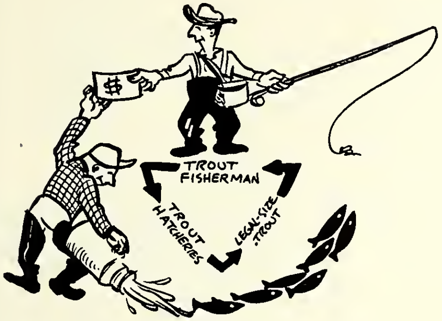
There's an added item. Fish need food—lots of it. Their food chains tend to be long. The average acre of water in the United States probably supports only about a hundred pounds per acre. This may range all the way from a very few pounds in some waters to a thousand pounds or more in some small highly productive waters.

It's easy to see why, during the days of the hatchery "craze," many of our hopes were unrealized. We can understand, now, why much of the stocking was ineffective or even harmful. During those days the public was quite willing to accept the belief that stocking was the panacea to all our fishing ills. We fishery workers believed it, too, and advocated it. The job of selling the stocking idea was an effective one. It was later that we learned more about fish being prolific and about the food needs.

The job of "unselling" has not been an easy one. For instance, a year or two ago we talked with a farmer about his farm pond. He had decided to start fishing it but then he observed an immense crop of bluegill fry—"millions of 'em." "We decided to wait until they grow up before starting the fishing," said the farmer. The man had a well- managed farm. He had only a limited number of cows in his pasture. He understood about carrying capacity and overgrazing on the land. But to him the farm pond was quite different.

There's the case, too, of sportsmen being delighted when a federal truck delivered bass fry for distribution in the rather extensive bass waters of one county. The supply consisted of 5,000 fry, less than half the potential output of one female!

Though there are still exceptions, more and more sportsmen recognize the fact that stocking has limitations. In general, the public still looks on stocking as a cure-all only in those states where the top fishery people (some ex-hatchery men or politicians) have been disinterested in public enlightenment, for obvious reasons.



Stocking does have major limitations. But, it's one of our important fish conservation tools. Properly used, stocking plays an important role in improving our fishing.

WARMWATER FISH

For warm waters we must rely on planting small fish. Raising game fish to adult size in hatcheries costs a fortune. Rearing a bass to twelve inches would cost an estimated two to four dollars. Not over half the planted fish can be expected to be recaught. This raises the average price of each bass creeled to four to eight dollars—more than the average price of fishing license. So far as we know, only one state still carries on this expensive practice.

Planting warmwater fingerlings serves a good purpose in a number of instances:

1. To stock new waters, especially farm ponds and new public fishing lakes.

2. Reintroduction of fish in lakes depleted by winterkill.

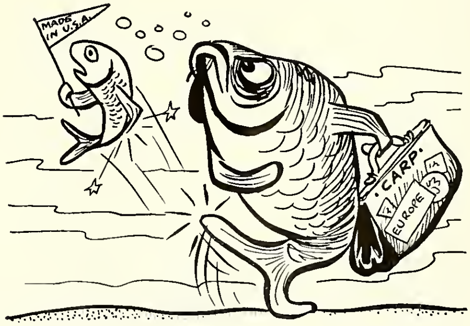
3. Introducing species not already present, where such introduction is desirable.

4. Restocking of waters from which existing fish population were removed through use of chemicals or by draining.

5. In some instances stocking will help fishing in waters where the fish are already present, but where conditions for spawning are inadequate. For example, Minnesota has been able to provide walleye fishing in some kinds of waters by stocking them heavily with walleye fingerlings. The situations where stocking of this kind is helpful seem to be rather limited; the need for the stocking should be determined by the professional fishery worker.

COLDWATER FISH

The stocking picture for warmwater fish and coldwater fish differs rather decidedly. Trout can be raised to catchable size at a much lower cost than would be needed to raise bass or other game fish to a size where they would be attractive to anglers.



In numerous waters we can now have good trout fishing only by planting catchable-size fish. The cost is high. A single legal limit costs more than the price of a license. But, such stocking is justified if the trout fisherman is willing to pay the bill. In many trout waters, the question is one of having put-and-take stocking, or having no fishing at all. Of course, such stocking is justified only on heavily fished waters where a big percentage of the planted fish will be retaken by the angler.

In general, stocking with coldwater species may be expected to benefit fishing under these circumstances:

1. Stocking lakes where conditions are suitable, but where the trout have no spawning areas. Usually fingerlings may be stocked under these conditions. Many trout lakes provide good fishing only because of periodic fingerling stocking; others have adequate natural reproduction.

2. Restocking lakes with fingerlings after removal of existing fish populations by use of rotenone or by draining. The state of Washington, for example, has provided excellent trout fishing in a number of waters by this method.

3. Stocking with catchable-size trout. This is the only method of providing good trout fishing in many very heavily fished waters, either because they are not good trout waters or because they cannot raise enough fish naturally to take care of the demand. For best results the fish must usually be planted at intervals just before and during the open season. Most studies show a low winter survival of these fish.

4. Stocking with anadromous fishes. Planting of small salmon is helpful where the spawning habitat has been destroyed by the building of dams or by other activity. Too, stocking with steelhead on the west coast has greatly improved the runs of these fish.

INTRODUCTIONS

Introductions have been both beneficial and harmful. For example, trout fishing has been created in many waters by introducing trout; fishing in some waters has been destroyed by introducing carp.

Often sportsmen tend to want those species introduced which are not already present. If these succeed, they must generally do so at the expense of native species. Carrying capacity is limited. If we add horses, sheep and mules to a pasture, the pasture will necessarily support fewer cows than it could support before the other species were added.

IN GENERAL

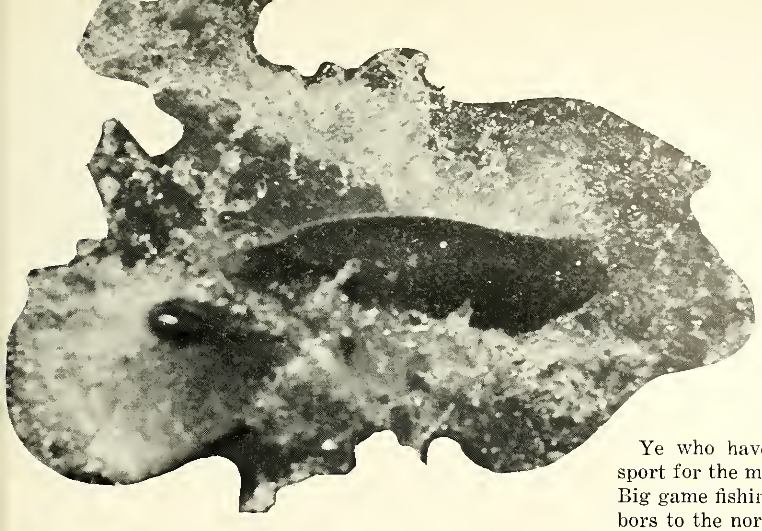
Stocking isn't a cure-all. For a while its value was greatly overemphasized. It's only one of the various fish management tools. However, it is still a very important tool. Its value will depend on how intelligently the tool is used. The need for stocking should be definitely established before we stock. It should be established not by the man who raises fish, or by the sportsmen, but by competent trained fishery personnel through a study of the habitat and the fish population already present.

The American Fisheries Society's committee on hydrobiology and fish culture gave a comprehensive report on advances in these two fields at a recent meeting of the Society in Seattle. Here is one of the many important observations given in the report:

Much improvement in the use of hatcheries and hatchery products is still urgently needed. All too frequently a hatchery program is operated as a distinct and separate function of a Fish and Game Agency rather than as a branch or tool of a Fisheries Management Division. Hatchery superintendents, sportsmen, forest rangers, and many others who have no knowledge of ecology or fish populations are given full charge of fish plantings. Fish released by such individuals frequently have less chance for survival than a palm tree in Chicago. Productive—and consequently successful—hatchery programs can be expected only where trained fishery biologists are handling planting programs and are judiciously using hatcheries as only one phase of a fisheries management program. ★

Commission Accepts Land for New Building

L. D. Young, Jr., Director of the Louisiana Wild Life and Fisheries Commission, signs the document which signifies acceptance on the part of the Commission of land donated by the City of New Orleans for a new wildlife department administrative and research building. The land is in West End Park on Lake Pontchartrain, a location convenient to the wharf and airport facilities of the Commission. The 1955 legislature appropriated $1,200,000 for the construction of this much needed building and laboratory. Witnessing the signing for the city are Victor Wogan, Jr. (seated), Edmund W. Wells, and Meyer Sabludowsky; and, for the Commission, Attorney Warren M. Simon.



GAR Fishing

Photographed by
Johnnie Gray

Ye who have faint hearts, stay away! This is sport for the man or woman who likes the big thrill. Big game fishing—for the alligator gar. Our neighbors to the north, the sportsmen of Arkansas, have taken the lead in popularizing this phase of our outdoor activity. Throughout the hot summer months gar fishermen from all over the country can be found along the quiet stretches of the Arkansas, the lower White River, the St. Francis and the Red Rivers. Most concentrated action is probably along the lower White River, where Johnnie Gray, Little Rock photographer, took these excellent pictures. Here, in one 12-mile stretch, 600 gar weighing over 100 pounds were taken in one summer season. They sometimes weigh twice that, and even larger ones have been reported. Among the several Arkansas guides who cater to gar fishermen is Duane Holloway, of DeWitt, Arkansas. From June through September he will take a party of two for $30.00 a day; of three, $40.00; and four or more, $12.50 per person. This includes tackle, bait, guide service and boats. Salt water tackle in the tarpon class is the preferred rig, with the 70# line tipped by a metal leader and a 6/0 size treble hook baited with a one-pound chunk of buffalo or gou. Some use the wire noose instead of the hook. Here is a sport we can heartily recommend to Louisiana fishermen, and we predict you'll find no shortage of alligator gars in the Pelican State.

C.H.G.

Lois, Duane Holloway's wife, poses with the 150-pounder which she tamed.

Mark Block, Little Rock archer-sportsman, helps Bill Apple, Secretary of the Arkansas Wildlife Federation, to pull his 120-lb. alligator gar over the stern. Technique is important in hooking and landing these fellows. The bait is fished on the bottom, and the gar is allowed to run with it for many feet before the hook is set. When the angler has played the fish to the boat it is usually killed with rifle, pistol, or bow and arrow.

→

Louisiana Hunting Regulations for 1955-56

Resident Game Birds and Animals

BEAR: Dec. 16-December 31, inclusive; bag limit one bear per person per season.

BOBWHITE (quail or partridge): November 24 to February 15, inclusive; bag limit 10, possession limit 20.

RABBITS: October 1 to January 31, inclusive; bag limit five.

SQUIRRELS: October 1 to January 1, inclusive; bag limit 10.

DEER: November 11 to January 9, inclusive, in these parishes:
Ascension, Assumption, Avoyelles (except that part north of the Red River, which will have a 32-day season opening December 1 and closing January 1), East Baton Rouge (except north of Highway No. 190, which will be closed), Iberia, Iberville, Jefferson, Lafourche, Livingston (except that part north of Highway No. 190, which will be closed), Plaquemines, Pointe Coupee, St. Bernard, St. Charles, St. James, St. John, St. Landry, St. Martin, St. Mary, St. Tammany, Tangipahoa (except that part north of Highway No. 190, which will be closed), Terrebonne, Vermilion, Washington and West Baton Rouge.

DEER: December 1 to January 1, inclusive, in these parishes: Catahoula (except closed north of Highway No. 84 and west of Boeuf and Ouachita Rivers), Concordia, Franklin, Grant (except closed east of Highway No. 165), LaSalle (in Ward No. 6 only; remainder closed), Madison, Morehouse, Tensas, Union (except area west of MOP railroad from Arkansas line to Litroe, Dean, Hailes, Spencer and Sterlington, which will be closed), West Carroll (except closed northwest of Highway No. 84 from Montgomery to Winnfield and west of Highway No. 167 from Winnfield to Jackson parish line).

DEER: November 11 to December 10, inclusive, in these parishes:
Beauregard (except that part east of Highway No. 27, which will be closed), Calcasieu (except that part east of Highway No. 27, which will be closed), and Vernon (except that part east of Highway No. 171, which will be closed).

DEER: December 1 to December 7, inclusive, in these parishes:
Claiborne (for only the area between Highway No. 9 from Homer to the Arkansas line and Highway No. 79 from Homer to the Arkansas line), Jackson, and Rapides (except closed south of Highway No. 112 from Red River and Latanier to Hineston and Highway No. 28 from Hineston to Leesville).

DEER: Other parishes:

Allen: November 11 to November 17, inclusive.

DEER: Closed season in these parishes:
Acadia, Bienville, Bossier, Caddo, Caldwell, Cameron, DeSoto, East Feliciana, Evangeline, Jefferson Davis, Lafayette, Lincoln, Orleans, Ouachita, Red River, Richland, Sabine, St. Helena, Webster, and West Feliciana.

BAG LIMIT ON DEER: One per day, two per season. Only bucks may be taken, and it is unlawful to take fawns or deer with horns less than three inches in length.

Migratory Regulations

DOVES (afternoon shooting only): September 16-October 7, inclusive, and December 19-January 10, inclusive; bag limit eight, **possession limit eight.**

DUCKS: November 5-January 13, inclusive; **bag limit four, possession limit eight** (mergansers, American and Red-Breasted, included in bag and possession limit, hooded merganser one per day, one in possession).

GEESE: November 5-January 13, inclusive; **bag limit five, possession limit five,** including not more than two Canada or two Whitefront (specklebellies) geese, or two in the aggregate Canada and Whitefront.

COOTS or poule-d'eau: November 5-January 13, inclusive; **bag and possession limit, 10.**

RAILS & GALLINULES: October 1-November 29, inclusive; **bag and possession limit, 15.**

SNIPE (Wilson's Snipe or Jacksnipe): January 1-January 15, inclusive; **bag and possession limit, eight.**

WOODCOCK: December 12-January 20, inclusive; bag limit four, **possession limit eight.**

SHOOTING HOURS for ducks, geese, coots, rails and gallinules: One-half hour before sunrise to one-half hour before sunset. Opening day of season for waterfowl and coots, shooting will begin at one-half hour before sunrise.

SHOOTING HOURS for woodcock: One half-hour before sunrise to sunset.

SHOOTING HOURS for doves: 12:00 noon until sunset.

Use of bait and live decoys prohibited. Hunters of ducks and geese who are over 16 years of age must have a federa waterfowl stamp attached to their state hunting license or old age permits. These may be obtained from U. S. Postoffice. Use of rifles, or shotguns larger than 10 gauge or capable of holding more than three shells, prohibited. The plug used in guns must be incapable of being removed without disassembling gun. Legal possession limits of resident game birds or game animals may be possessed up to within 30 days of the opening of the following season.

Licenses

HUNTING LICENSE, RESIDENT (Required of all residents between the age of 16 and 60. Those over 60 must have old-age permit.)	$ 2.00
HUNTING LICENSE, NON-RESIDENT (Required of all non-residents, except those under 16 years of age.)	Reciprocal with other states
TRAPPING LICENSE (Trapping seasons to be announced. Only residents permitted to trap.)	$ 2.00
FUR BUYER, RESIDENT	$ 25.0
FUR BUYER, NON-RESIDENT	$ 100.0
FUR DEALER, RESIDENT (Deposit $500.00 required)	$ 150.0
FUR DEALER, NON-RESIDENT (Deposit $1000.00 required)	$ 300.0

A loaded oyster lugger moves into the docks of the Southern Shell Fish Company at Harvey as an empty moves out.

The conveyor belt is swung onto the boat and the unloading begins.

Seafood Canning Plant

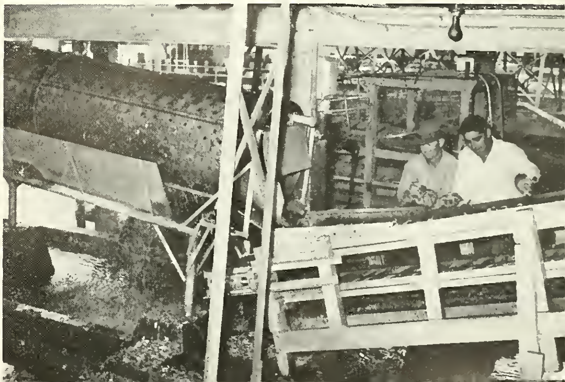
by
Claude Gresham

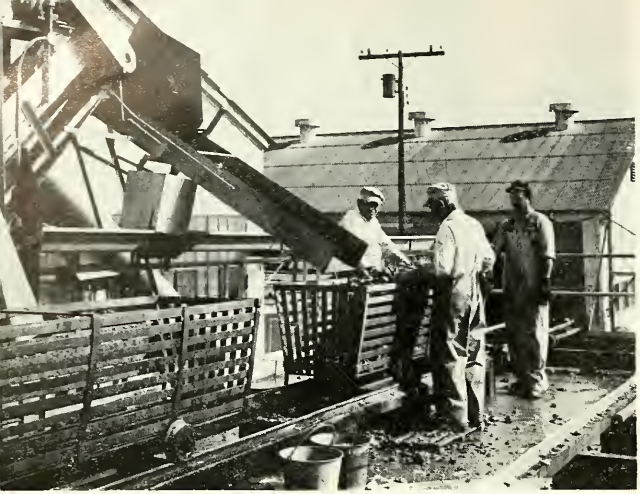
Louisiana seafood is well-known throughout the nation, and this pleasing notoriety is due primarily to the oysters and shrimp which leave the state in cans. One of the largest of the seafood canning plants in Louisiana is the Southern Shell Fish Company, which is located in Harvey, just across the Mississippi River from New Orleans. On these three pages you get a glimpse into the operations of this company at a time when they were canning oysters. By following the pictures you can follow the oysters from the luggers through all the processes until the cans are placed in railroad cars for national distribution. Since the processing of the two are very similar, most of the canning plants handle both shrimp and oysters, shifting from one to the other as the peak production periods change.

Louisiana oyster production has remained fairly stable for the past few years, with the 1954 yield being 797,224 barrels. Production throughout the rest of the country has been going down, and we are fortunate to be able to maintain our industry in the face of many adverse factors. The tremendously increased oil activity in our coastal area accounts for two of these factors—competition for labor, and deterioration of oyster grounds as a result of oil exploration and production. Another problem has been that of decreasing flow of fresh water into the coastal areas as a result of the nationwide drought of the past few years. This below-normal flow of fresh water has resulted in high salinities, ideal conditions for the oyster drill, considered the most destructive natural oyster enemy found in Louisiana waters.

Two shovelfuls of oysters drop onto the conveyor. Note that the belt disappears **BENEATH** the top platform in the background. There the oysters drop into . . .

. . . this "washer". It's a rotating, cylindrical tube through which water is constantly spraying. The shells move through the inclined tube by froce of gravity, where the dirt is shaken and washed from them. They fall from the washer to another conveyor belt which takes them to the top platform.

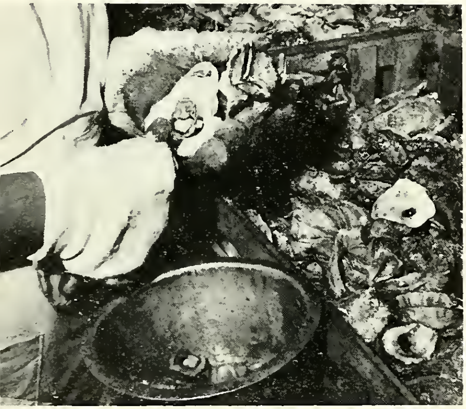




On top of the platform the oysters are loaded into miniature railroad cars, each of which holds about five barrels.

Many of the workers, such as Tom Mandina here, have been in the oyster business in some capacity almost all of their lives.

Th
int



Each "Shucker" is on a piecework basis, being paid for each pan of shucked oysters on a weight basis.

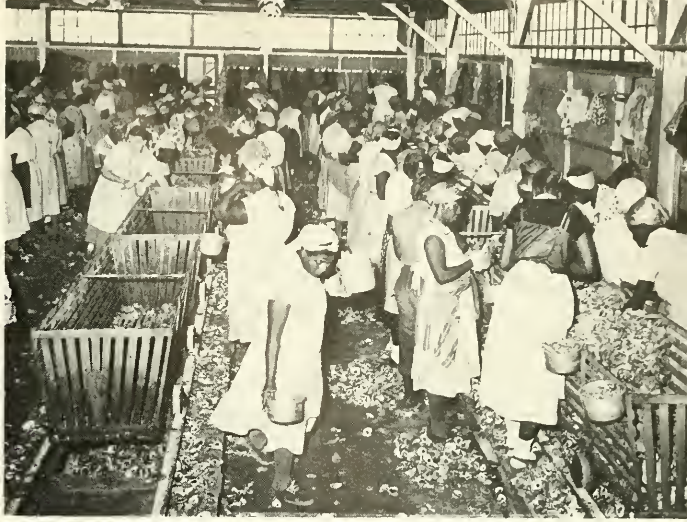
The weighing and paying goes on constantly at the front of the shucking room. A good shucker can make $15.00 a day on cultivated oysters, which are usually larger and heavier than natural reef oysters.

After
there

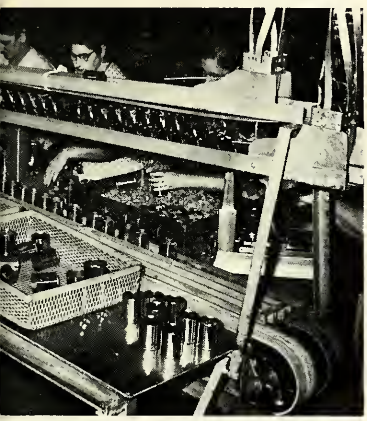
After sealing, the cans go into the pressure cooker. There they stay for the specified time, which kills all bacteria and steam cooks the oysters.

The cans are then cooled, and the labels are placed on them.

oysters are then moved to another track and pushed
x. There they remain for 5 to 10 minutes.



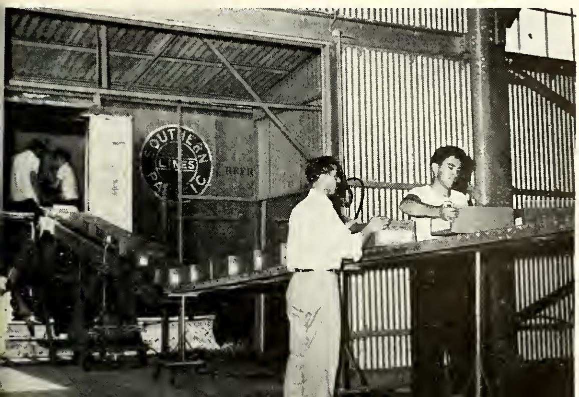
The cars are rolled from the opposite side of the steam box directly into the shucking room. Here the oysters are removed from the shells by hand.



ed, the oysters go to the canning room, and
n fills cans to their allotted capacity.

Cans are then checked for exact weight.

final step is the boxing, then to the conveyor belt into boxcars
ch take Louisiana oysters throughout the country.



Vic Blereau, the man in charge of Southern Shell, discusses the operation with Roy Hebert, Asst. Plant Superintendent.

QUAIL Research

-*Photo by Blanchard*

by Robert Murry

The quail research program is designed to supply some of the answers necessary for conducting economically and biologically sound quail development work. The Pittman-Robertson Section of the Louisiana Wild Life and Fisheries Commission is using an area of approximately 7,300 acres on which development practices are being field tested. This area is located on Army owned land of the Camp Polk Military Reservation in Vernon Parish. From this area we expect to find out a lot of things in the next few years.

Let's put it this way. We *know* that we can increase quail harvest by one or more of several management practices. We *do not know* the effectiveness of each practice compared to the cost. We do not even know that YOU can afford large scale quail management!

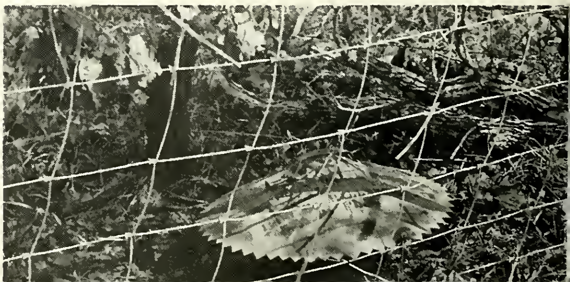
It has been found throughout the range of the Bobwhite Quail that deliberate quail management is fairly expensive. Yet each year a wide variety of management practices are undertaken by landowners and interested sportsmen's groups. A good many of these projects are successful in that the quail population and the quail harvest is increased. If the birds cost several dollars each and the people footing the bills are happy, then we might say that they are practicing good management. On the other hand the well informed sportsman is not likely to allow any public agency to practice quail management with his money at such a cost. Since we have no accurate way to determine the worth of each bird added to the quail harvest, we can do the next best thing and determine the cost. With prior knowledge of costs and results the hunter can ask for as much or as little quail management as he can afford.

We don't plan to test each management practice that is known to benefit quail. Instead, we will try to determine cost and results of three of the more promising types of management for cut-over pinelands—quail feeders, burning, and fallow field duplication.

The automatic quail feeder is being tested under local conditions despite the great deal of work already done with it elsewhere. In other states the success reported has ranged from low to excellent. These feeders are made of galvanized metal. They are placed adjacent to suitable quail cover and filled with some type of agricultural grain. The success of these feeders in other places has been attributed

Quail feeder being tried under the research program. The fence is necessary to keep hogs from turning the feeder over.

—*Photo by Murry*



to two main factors: They served to increase the quail population and they served to bunch the birds so that the hunter could find them, thereby increasing the harvest.

Work already conducted in Louisiana indicates that the so called "hog proof" feeder is actually hog proof only after it has been fenced against hogs. Other disadvantages already encountered on the study area are the multitude of "freeloaders" that are attracted to the feeders. Possibly the worst of these is the Texas town ant, whose depredations had become so bad that control measures were begun in February of this year. Small birds, rats, mice, raccoons, and rabbits have all taken their toll. Of the small birds, the Vesper Sparrow was the worst offender during winter months. Raccoons and rabbits have not yet used enough feed to warrant control; however, rat and mouse use has add considerably to the cost of maintaining the feeders. Next to be determined is whether it costs more to control rats and mice or to feed them. Feeders maintained at other places have been known to attract snakes, hawks, owls, skunks, and foxes, all of whom act as "nature's mousetraps" and tend to control these rodents. These may not always be desirable around a feeder.

A low canopy of dense brush reduces the spoilage of grain from wetting by blowing rains. This shelter also provides cover for feeding birds.

Since it has long been recognized that quail populations are lowered by accumulated roughs of perennial grasses, burning is another management practice to be tried. Plans call for the use of a three-year burning cycle, thus approximately one third of the area where burning is being tested will be burned each year. This burning will be performed as much as possible like the "prescribed burn" which is more and more becoming a tool of forestry in the pine type throughout the state.

Most hunters readily agree that abandoned fields in this section of the state still provide better quail hunting than areas where agriculture has never existed. The reasons for this are pretty well understood and will not be discussed here. One aim of the quail research will be to duplicate fallow field conditions on a portion of the area by disking and plowing. We are going even a step further and sowing common lespedeza at the rate of five pounds per acre on a portion of the plowed area. The planted area will first be fertilized with a complete chemical fertilizer (3-12-12) at the rate of 200 pounds per acre. Slightly more than one per cent of the disk area has been treated in the above manner. Within a year two per cent will be sown to lespedeza and an additional three per cent will be disked on a two-year cycle.

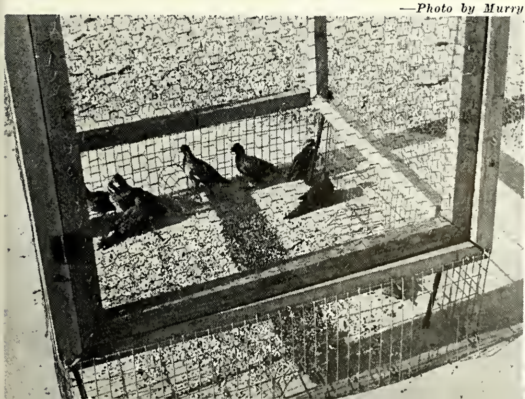
This practice, as are the first two, is adapted for application on lands where timber growing and open range cattle production are the two main land uses. In an effort to measure the effects of the three management practices under observation better, a fourth area will be maintained as a "control". This portion of the area will receive no management but will have a fall census made on it as do the management units.

The area is open to legal hunting, and we will measure the harvest of birds from the area. Sustained harvest, rather than the fall population, is the ultimate measure of the biological soundness of each practice. The difference in the kill from each management unit and the kill from the control unit, divided into the cost of management of that particular unit, will be used as a yardstick to determine the economic aspects of management.

There is no need to point out the urgent need for knowledge of *practical management techniques* to apply to the several million acres of cut-over pinelands in the state. It is the hope of the Commission personnel that the present quail research will reveal that one or a combination of the practices being tested will be effective, cheap to apply and will fit in well with present use demands of the land. ★

Dove trap on Camp Polk with half a dozen quail in addition to two doves. The birds are banded and released.

—*Photo by Murry*



Disking of fallow fields is one of the three methods of improving habitat.

—*FWS Photo*

Wendell Castle with the 96 pound tarpon which took first place in that division.

J. B. Jones, of Cameron, with his sailfish taken the first day of the rodeo aboard the "Maray Too".

RODEO

Photos by Gresham

Southwest Louisiana Deep Sea Rodeo

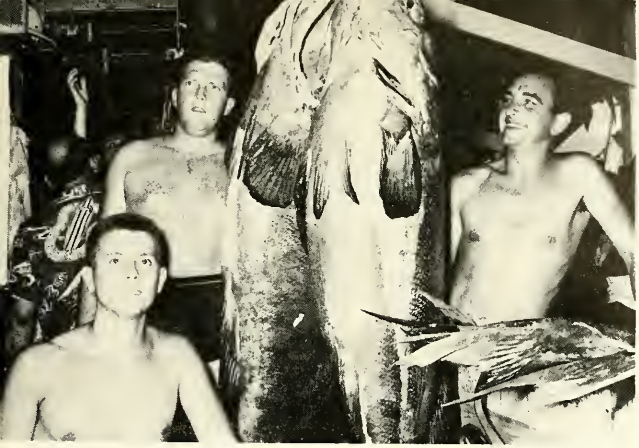
Cameron, La.

July 2, 3, 4

Dr. W. H. Miller, of Lake Charles, with his 43 pound sailfish, one of two taken during the rodeo.

Graves Castle, with the 106 pound tarpon which would have taken first place away from his brother had he gotten it to the weighing station ten minutes earlier.

And he caught it, too. Ken Castle, six years old, with the king mackerel which which won first place in the children's division.



Smith, Riviere, & Bonck with the jewfish that won for these skin divers the efferson Democratic League Trophy.

Gen. Raymond Hufft, New Orleans, holds the trophies he won with his top tarpon which weighed 139 lb. 4 oz.

RESULTS

Grand Isle Tarpon Rodeo

Grand Isle

July 14, 15, 16

—Photos by Britt

Bob Mitcheltree shakes a king mackerel off the gaff into the ice box, but it couldn't touch the top three kings which all weighed over 28 pounds.

The smallest tarpon taken in rodeo history was the 5 lb. 5 oz. beauty taken by James LeBoeuf, of Orange, Texas. It won for him the City of New Orleans trophy for the first tarpon registered.

Varied expressions are evident on the bystanders as the 10 ft. shark which took the New Orleans Brewer's Asso. trophy for Joseph Hotard, Sorrento, is raised on the scales.

For The Record . . .

1955 WINNERS

SOUTHWEST LOUISIANA DEEP SEA RODEO CAMERON July 2, 3, 4			GRAND ISLE TARPON RODEO GRAND ISLE July 14, 15, 16	
WINNER	WEIGHT	SPECIES OF FISH	WEIGHT	WINNER
(1) D. M. Laird (2) Ray Moneymaker (3) James Platt	3 lbs. 8 oz. 3 lbs. 5 oz. 2 lbs. 9 oz.	**BLUEFISH**	3 lbs. 1 oz. 2 lbs. 6 oz. 2 lbs. 2 oz.	(1) Dr. Walter Ratliff (2) L. B. Trenchard (3) Stanley L. Rush
(1) Mrs. H. B. Wright (2) Shirley Reinauer (3) Mrs. George McNess	9 lbs. 4 oz. 8 lbs. 12 oz. 8 lbs. 8 oz.	**BONITO**	22 lbs. 8 oz. 17 lbs. 4 oz. 16 lbs. 0 oz.	(1) E. P. Rivas, Jr. (2) Ignace J. LeBlanc (3) Gareth LeBlanc
(1) Mrs. Dick Watson (2) Capt. George Tolbert (3) Frank Assunto	32 lbs. 0 oz. 27 lbs. 0 oz. 14 lbs. 0 oz.	**COBIA**	60 lbs. 8 oz. 57 lbs. 8 oz. 53 lbs. 4 oz.	(1) Dr. Henry A. LaRocca (2) Ed Bailey (3) Hayman Petrie
(1) Orville Nolan (2) Maj. Ray Murphy (3) Mrs. Richard Harrell	5 lbs. 12 oz. 5 lbs. 4 oz. 4 lbs. 5 oz.	**DOLPHIN**	20 lbs. 8 oz. 18 lbs. 0 oz. 17 lbs. 12 oz.	(1) William Fandison (2) Nolan Vinet (3) B. F. Duncan
(1) William Newlin (2) Hook Robichaux (3) Hool Robichaux	16 lbs. 4 oz. 3 lbs. 15 oz. 2 lbs. 13½ oz.	**DRUM**	....	No classification
(1) J. C. Craig (2) Sam Threadgill (3) E. J. Balzoni	22 lbs. 8 oz. 22 lbs. 0 oz. 20 lbs. 8 oz.	**JACKFISH**	28 lbs. 4 oz. 27 lbs. 12 oz. 27 lbs. 8 oz.	(1) Lou Mistich (2) Edward W. Soniat (3) Harold Bauland
(1) George Rivette (2) Mrs. Richard Harrell (3) Jack Short	31 lbs. 0 oz. 25 lbs. 0 oz. 24 lbs. 0 oz.	**KING MACKEREL**	32 lbs. 12 oz. 30 lbs. 4 oz. 28 lbs. 12 oz.	(1) Larry Uzee (2) H. W. Maitrejean (3) Eula Grey Nolan
(1) Buddy Trammell (2) Pat Aguillard (3) Hook Robichaux	7 lbs. 0 oz. 6 lbs. 12 oz. 4 lbs. 11½ oz.	**REDFISH**	36 lbs. 4 oz. 34 lbs. 0 oz. 32 lbs. 0 oz.	(1) Dr. Henry A. LaRocca (2) Richard Glynn (3) Richard Glynn
(1) Dr. W. H. Miller (2) J. B. Jones, Jr. (3) None	43 lbs. 0 oz. 35 lbs. 0 oz.	**SAILFISH**	....	None caught
No classification	....	**SHEEPSHEAD**	7 lbs. 15 oz. 7 lbs. 10 oz. 7 lbs. 2 oz.	(1) Eddie Martin (2) Douglas Cheramie (3) Truett Boswell
(1) Brown Fortier (2) Mrs. Pearl Ward (3) Ed Darby	6 lbs. 0 oz. 5 lbs. 8 oz. 5 lbs. 0 oz.	**SPANISH MACKEREL**	5 lbs. 5 oz. 4 lbs. 13 oz. 4 lbs. 6 oz.	(1) Irving Daigle, Jr. (2) Richard W. Pitre (3) Mrs. G. Weaver
(1) Johnnie Neil (2) William Newlin (3) Bill Hudson	4 lbs. 0 oz. 3 lbs. 14 oz. 3 lbs. 4 oz.	**SPECKLED TROUT**	6 lbs. 0 oz. 5 lbs. 11 oz. 5 lbs. 10 oz.	(1) Joseph F. LaFont (2) Raymond Kern (3) Jo Ann Vinet
(1) Wendell Castle (2) Lock Paret, Jr. (3) Frank Mosley	94 lbs. 0 oz. 86 lbs. 0 oz. 82 lbs. 0 oz.	**TARPON**	139 lbs. 4 oz. 112 lbs. 8 oz. 106 lbs. 0 oz.	(1) Gen. Raymond F. Hufft (2) Mrs. Lester J. Plaisance (3) Lester J. Plaisance
None caught	....	**TRIPLETAIL**	26 lbs. 4 oz. 22 lbs. 8 oz. 22 lbs. 0 oz.	(1) Joseph Boudrau (2) Preston E. Davis (3) Joseph Boudrau

How To Apply For Pass-A-Loutre Duck Hunting

The Pass-a-Loutre public duck hunting program, initiated by the Commission last year, is being expanded to take care of twice as many hunters this season. The operation received nation-wide attention last season, and several national magazines have stories on it scheduled for this fall.

Raymond Moody, former district biologist supervisor at Monroe, is now in charge of the public shooting grounds throughout the state. He reports that six new camps are now under construction at the mouth of the Mississippi River which will allow a total of 200 hunters per week to be handled. Two of these will be arranged to accommodate couples, therefore women may apply for this year's hunts if accompanied by their husbands.

1—The area will be opened to **Louisiana residents** through applications.

2—Transportation from Venice to the hunting ground and return to Venice will be furnished.

3—Bed, cooking utensils, stove, fuel and lights will be furnished, but no linens.

4—One duck boat, paddles and decoys for every two hunters will be furnished.

5—Camps and blinds will be assigned by lottery.

6—Hunting will be permitted every day of the week except Monday. The four weekly hunt periods will be Tuesday-Wednesday, Wednesday-Thursday, Friday-Saturday, and Saturday-Sunday. Fifty hunters, not more than five of which can be women, will be on each hunt.

7—Each hunt will be two days, with 50 persons on each hunt.

8—No hunting will be permitted after noon each day.

9—Applicants may apply for more than one hunt, but not more than once each week.

10—A fee of $2.00 per hunt will be charged each hunter.

11—All hunters will be required to sign an agreement releasing the Commission from responsibility for any bodily harm or personal loss and agreeing to pay for any Commission property lost or destroyed.

12—Permits may be transferred from one person to another.

HOW TO APPLY

1. **Make application direct to Louisiana Wild Life and Fisheries Commission, 126 Civil Courts Bldg., New Orleans 16, Louisiana.**
2. **You may apply in a group not to exceed six persons, but each person must be named in the application.**
3. **No person may submit more than one application for each week. If the name of any person is received in more than one application for the same week, it will be disqualified.**
4. **You must make application for the hunts one month in advance of the date of the hunt (see table below).**
5. **All applications must be made by letter THROUGH THE MAILS.**
6. **Applications for each particular hunt must be postmarked during the application dates for that hunt as listed in the table below.**
7. **Be sure to specify the dates you wish to hunt.**
8. **Be sure to indicate whether or not you will accept another hunt during the week of your request if your preferred dates are filled.**
9. **The quota for each hunt will be selected by lottery.**

All applicants will be notified within one week after the application closing date whether or not they have been selected for the hunt. Those who are chosen will then be notified to forward $2.00 by check or money order (no cash), after which their permit will be sent to them. There can be no refunds, but you may transfer your permit to another hunter in the event you are unable to participate.

It will be necessary to follow a very close schedule to insure a smooth operation. All hunters must be in Venice at Texas Company Wharf ready to board the boat to Pass-a-Loutre at 1:00 p.m. the day prior to each hunt. Hunting will stop at 12:00 noon each day and the hunters must be ready to leave the camp for return to Venice by 1:00 p.m. on the last day.

No person will be allowed to board the boat at Venice without a Pass-a-Loutre permit, a valid hunting license, and a duck stamp (if over 16 years of age). No persons under 18 years of age will be allowed, unless accompanied by parent or guardian. No alcoholic beverages will be allowed on the boat or at the camp. Simple camp rules must be observed.

DATE OF HUNT	DATES APPLICATION RECEIVED (Letter must be postmarked between these dates.)
Nov. 8– 9	Oct. 7–13
9–10	" " "
11–12	" " "
12–13	" " "
15–16	Oct. 14–20
16–17	" " "
18–19	" " "
19–20	" " "
22–23	Oct. 21–27
23–24	" " "
25–26	" " "
26–27	" " "
29–30	Oct. 28–Nov. 3
Nov. 30–Dec. 1	" " "
Dec. 2– 3	" " "
3– 4	" " "
6– 7	Nov. 4–10
7– 8	" " "
9–10	" " "

DATE OF HUNT	DATES APPLICATION RECEIVED (Letter must be postmarked between these dates.)
10–11	Nov. 4–10
13–14	Nov. 11–17
14–15	" " "
16–17	" " "
17–18	" " "
Dec. 20–21	Nov. 18–24
21–22	" " "
23–24	" " "
24–25	No Hunt
27–28	Nov. 25–Dec. 1
28–29	" " " "
30–31	" " " "
Dec. 31–Jan. 1	No Hunt
Jan. 3– 4	Dec. 2– 8
4– 5	" " "
6– 7	" " "
7– 8	" " "
10–11	Dec. 9–15
11–12	" " "

Pick out the date you would like to hunt and make application to the Louisiana Wild Life and Fisheries Cmmission by letter hrough U. S. Mail. It must be postmarked between 12:01 a.m. on the first day opposite the date, but before 11:59 p.m. on the ast day.

What's Happening to Our Water Supply?

by Joseph C. Keeley

Some four years ago an Arabian sheik was ceremoniously handed a container of water. He looked at it closely, took a tentative sip, drained the cup. Then, turning to the group around him, His Highness Sheik Abdulla al Salim al Subah, ruler of Kuwait, asked many questions.

And well he might, for the Sheik was taking part in an event as dramatic as any tale from the Arabian Nights. Facing him was a strange array of tanks and tubes, and far beyond stretched the Persian Gulf. The waters of the Gulf, he knew, were as salty as those of the ocean, yet he had just drunk of those waters and what he tasted had no trace of salt. Somewhere in that twisting maze of pipes, an amazing feat of magic had been performed.

The magicians in this case were engineers, British and American. To get fresh water for the workers and plant of the Kuwait Oil Company, owned by the Gulf and Anglo-Arabian companies, they had just put into operation a huge distillation plant made by Westinghouse Electric International. By means of its six evaporator units, enough Persian Gulf water was processed to supply a daily flood of 720,000 gallons of fresh water.

Hearing the engineers describe their achievement, the Sheik pondered. He thought of the way the wells of Kuwait had long since stopped yielding anything but brackish water, and how it was necessary to bring water in by ship, with merchants peddling it from goatskins carried by donkeys and camels. He thought of the value of this water, in a land where the temperature often soared to 167 degrees.

With these thoughts in mind, he spoke to officials of the oil company and from them got an agreement which let his people have 120,000 gallons of precious distilled water every day. But good as that was, he knew it wasn't enough for 150,000 Kuwaitis. So he called in the men who knew how to turn salt water into fresh—Westinghouse engineers and representatives of the British consulting firm of Ewbank and Partners. From his negotiations came a contract for ten huge evaporators, to supply 1,250,000 gallons daily.

Thinking of the Kuwaitis in their sunbaked country, Americans may be inclined to feel sorry for them. However, save some of your pity. You may need it for yourself. The fact is, our own country's water supply is not any too ample, and it is rapidly becoming less!

Last year the danger signs multiplied for millions of Americans. They saw their wells go dry, and their reservoirs drop to dangerously low levels. In many cases they had to curtail the use of water; in some cases they had no water at all. They saw crops and animals sacrificed to the drought, and the most unfortunate of the sufferers saw the rich top-soil o their farms blow away to leave desert-like dust bowls.

How can such a thing happen in a country which is so liberally blessed with lakes and streams, an which has an annual average rainfall of 30 inches The main trouble is that this rainfall is not evenl distributed. Along the Pacific Northwest coast, precipitation runs to about 120 inches, while parts o the arid Southwest get less than five. To complicat matters, industry, agriculture — and people — hav been concentrating in areas where water supplie are far from adequate.

As though this were not enough, man has consistently crossed up nature. One reason why ou rainfall doesn't do us as much good as it should i because of the way we have stripped the countr of protective cover. The result is that, instead o being absorbed into the earth, to be released gradually as needed, rain and melting snow wash o rapidly, causing floods and further eroding the land Man has also transgressed by polluting large an small bodies of water, so they cannot even be use for bathing, let alone drinking.

However, while our water supply is not what i should be, it is the growing demand for water whic has our experts worried. Few people realize ho much water we use in our daily lives. Thinking i terms of an occasional drink, washing and bathing laundry and cooking, many people would probabl estimate that two or three gallons should suffice Others, aware that the flushing of a toilet takes fro five to six gallons, might give a higher figure.

All of them would be wrong. New York Cit reports that its immense network of reservoirs pour nature a chance to hold back the water till it i needed. Another is a vast coordinated program t prevent further pollution of lakes and rivers, an water into the metropolis at a rate of 130 gallon daily for every man, woman and child. Chicago says it requires 240 gallons, and Los Angeles reaches out for hundreds of miles to get 170 gallons daily for everyone living there.

And yet, even these figures are short of actual consumption. This country is using 185,000,000,000 gallons of water daily, 1,150 gallons for every man, woman and child. And these figures do not include water used for hydro electric power.

It takes unbelievable quantities of water to make many of the things we consume. A ton of steel requires 65,000 gallons. Each barrel of petroleum takes 18.33 barrels. A ton of aluminum calls for 320,000 gallons, and a ton of synthetic rubber requires 600,000.

From this, it is evident that unless heroic measures are taken not just to conserve water but to augment present supplies, we are in for serious trouble.

Our underground reserves are made up of water that percolated down through the soil till it reached water-tight rock. It is this water that feeds wells and springs and keeps our streams going during dry spells. It is this water, too, that supplies most American cities with drinking water.

No one knows exactly how much underground water we have in this country, but we do know that we have "mined" it to a dangerous degree. This is apparent from a study of the nation's water table, or level of underground water, and it is reflected in the way individuals, industries and communities have had to dig deeper to get adequate supplies.

The situation is particularly acute in the Southwest, where rapid population growth, increase in irrigation acreage, and influx of industries have combined to make this an emergency area. The U. S. Geological Survey reports that in some California counties, the ground-water level has dropped to more than 400 feet. From Texas to the Pacific coast, there has been an average drop of 40 feet in the past 13 years. And in Arizona, the level has been dropping five feet a year.

It is not just the Southwest that is in trouble. Parts of the East have serious problems. Underground supplies in the Mississippi and Ohio River Valleys, as well as in the Piedmont, are being drained faster than they are being replenished. On many farms, wells go dry during the summer, and water has to be hauled for long distances. In Virginia, Georgia and North Carolina, the need for water is outdistancing the supply. Wells must be drilled deep, but even so they are not as dependable as shallow wells used to be.

Obviously, the problem has leaders in government and industry worried. There are solutions, but they are usually expensive and time-consuming. One is a long-range program of conservation, to provide cover for denuded lands and thereby give to clean up those we have been using as open sewers.

Industry, too, must work out a plan of making the most out of the water available, by preventing waste. And more reservoirs will have to be built, not just to supply water but for flood-control and power development.

Meanwhile, what can be done? Possibly the answer is indicated by the story of the Sheik. To be sure, 1,250,000 gallons of water daily is a mere drop in America's water bucket, but don't be surprised if, one of these days, you see huge plants being built along our coasts to get fresh water out of the ocean.

Actually, that's where we get most of our fresh water anyway. Covering three-fourths of the earth, the ocean serves as a big receptacle whose brine is distilled into pure water by solar energy. All we have to do is go nature one better, by turning the water of the ocean into fresh water *and* putting it where it is needed.

The primary problem facing the scientists is not just to discover ways of making fresh water out of salt but to find out how to do it cheaply. Any system developed will have to compete with established prices for water as it is provided by nature and transported to our towns and cities. And how much is that? According to the American Water Works Association, the production cost of a million gallons ranges from $22 to $339 in 335 American cities.

To get water out of the ocean at such prices is obviously a large order, but something is being done about it. Specifically, the 82nd Congress passed a law "to provide for research into and development of practical means for the economical production, from sea or other saline waters, of waters suitable for agricultural, industrial, municipal, and other beneficial consumptive uses, and for other purposes."

Implementing this, it authorized $2,000,000 to be spent over a five-year term, and an Office of Saline Water Research was set up in the Department of the Interior to handle the program, with technical assistance from the Geological Survey and the Bureaus of Mines and Reclamation. For the first year's work, Congress appropriated only $125,000. Work progressed so rapidly that an additional $50,000 was authorized. For the year 1954, the full $400,000 quota was approved.

So that no possibilities will be overlooked, a great many research programs are under way. In all these, energy is of key importance, since all methods of obtaining fresh water from saline require energy of some sort. The scientists are therefore considering waste heat from industrial processes, solar energy, tidal energy, chemical energy, wind power, atmospheric heat, electromotive force, wave energy and nuclear fission. The last is glossed over in official reports because of its present costs. However, at some future time, atomic power may give us all the water we need for personal use, to grow the things we eat and to make the things we require. ★

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REACTION TO "QUAIL IN LOUISIANA"

Baton Rouge

The articles on quail in your July-August issue really struck home. On my small farm near Clinton I have for two years been doing the things recommended to increase the quail population and can see the benefits already. As a premium, I walked into a turkey hen last week and put six of her young into the air, they being about the size of a guinea.

—W. Morton Evans

Columbia, S. C.

I'd like permission to run your article on quail in the summer issue [of SOUTH CAROLINA WILDLIFE].

Eddie Finlay, Secretary
South Carolina Wildlife Resources Commission

Jefferson City, Mo.

I would like to use parts of your quail article in our MISSOURI CONSERVATIONIST.

Dan Saults, Chief
Missouri Information & Education Division

Shreveport

Your article on quail in the July-August issue is good—true, too, by my personal experience. Vernon and Beauregard, from about 1919 to 1935, "hived" more of 'em than I could imagine ever existed elsewhere.

—L. S. Hooper

Baton Rouge

Your piece on quail restocking is extremely timely, well written, and indicative of a considerable amount of research. It was exactly in line with what we in the field of game management have been trying to get across to quail hunters for years.

Kenneth Smith,
District 7 Supervisor

Eunice

I have just finished reading your article on "Quail in Louisiana" and would like to comment on it a little bit. The first thing I would like to know is why it cost $2.00 each to raise birds to the releasing age. Now I know and I can prove that it can be done for a lot less than half that much. Bad management must be the answer.

The next thing is the matter of how many of the original 105,000 birds were actually released. Some of those went from the box to the frying pan. I will admit that those are high-priced birds for the sportsman or the taxpayer. The answer to that one is still bad management.

The next thing is the matter of food for the birds. I agree that we need more food and cover for Old Bob, but do you really think it is the bird hunters' place to plant the food and cover? If you do, don't you think the deer hunters should carry the expense of trapping the deer and moving them around all over the state, and that the turkey hunters should raise and release their own turkeys? The state of Arkansas furnishes lespedeza seed to all the bird hunters so they may scatter it here and there along fence rows and other good places so the birds will have something to eat. If Arkansas can do it, why can't we?

I enjoy your magazine very much and think it is tops, but let me say this before I go: I think that old Bobwhite is the smartest bird we have, and all he wants is half a chance and he will do the rest.

—C. W. Andrews

The idea of the state game department furnishing lespedeza seed to hunters so that they can scatter it in likely places during their hunts is one which several states have adopted. We have heard discussions both pro and con as to the value of such an operation, but have seen nothing concrete which would indicate that the practice is either good or bad.

We hardly think it fair to compare the trapping and transplanting of deer with the providing of food and cover for quail. We know that the deer is one of the easiest species to manage properly. Deer are very susceptible to the management practice of trapping and transplanting where the area being stocked is good deer habitat and has a low deer population or none at all. We only wish that quail were as easy to manage; but when we get right down to it, all we need to do is provide them with food and cover and, as Mr. Andrews says, they will do the rest. It's just unfortunate that requirements for the bobwhite conflict so drastically with the land use policies in effect on most of Louisiana's open land. Fortunately for the deer hunter, such is not the case with deer. We think that all will agree that it would be a futile thing for the Commission to try to plant food and cover for quail throughout Louisiana. Our limited personnel and funds would not be the proverbial 'drop in the bucket,' and the effects on the overall quail population would be negligible.

We must continually return to the idea that the landowner is the key to quail hunting. If we can present to him ideas and practices which will encourage quail without detracting from his land use income, we can improve quail hunting. If we cannot do this, then quail hunting is certain to suffer.

As to the cost of raising quail—hatchery quail—this is the thing we must keep in mind: Even if we could release the quail fo half of the $2.00 which we quoted, it is stil apparent that such an effort would be wasted. The outstanding fact in all th studies made by Louisiana and many othe states is that the release of pen-reare quail, regardless of the cost, had no effec whatever on raising the overall quail popu lation of the area. —*C. H. G.*

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FRIENDSHIP ACROSS THE SEA

Balamban, Cebu, Phillippines

I am a public school teacher of Balamban Cebu, Philippines. One of my interestin hobbies and sidelines is fishing. Occasionall I go to forests and observe wild life fo materials in our Elementary Science classes

I came across a copy of LOUISIAN CONSERVATIONIST. I was fortunate t know that for the preservation of wild lif and game you are sending this magazin free. In view of it please include my nam in your regular mailing list.

Thanks for the consideration and ma the magazines you give to my other brothe Filipinos increase the strength of friendshi and love between our two countries.

—Simeon Dumdum

* * * *

JULY-AUGUST COVERS

Newllano

Just received the July-August copy of th CONSERVATIONIST and it sure is honey. The covers are beautiful, the pic tures are swell, and there are several goo articles. Thanks for such a nice magazin

—Ted Landrum

The paintings on last months covers wer done by R. E. Tucker, L. S. U. graduat who is now a forester for the Southern Ac vance Paper Company at Hodge. Bob als did all of the other excellent illustrations i the forthcoming bird book. *C. H. G.*

* * * *

BIRD BANDING

Pleasant Hill

Would you please send me informatio telling how bird banding is done and who should contact to get permission to do this

I would like to band birds as a hobby be cause of the things I can learn by doing s

Clinton Blue

You can get all of the information you need about bird banding by writing to the U.S. Fish and Wildlife Service, Bird Banding Section, Patuxent Research Refuge, Laurel, Maryland. *C. H. G.*

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HOW FAST IS A PORPOISE?

Baton Rouge

Enjoyed immensely David Gunston's article on speeds of fish. But I believe no such account is complete without tribute to the porpoise, that friendly, playful chap I believe can outswim nearly anything in the Gulf. In a speedboat making 40 mph, I have seen a porpoise swim leisurely alongside and, just as leisurely, swim off at an angle at a much faster speed. I hooked one once —and had the impression I'd snagged a B-36. Never did find my line!

—Jack Gould

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MAGAZINE INDEX

New Orleans

I have received all the issues of the CONSERVATIONIST regularly and enjoy the magazine immensely. The photography, diagrams, and charts are always good, and the articles and news items are of historical and educational value as well. I have every issue of the current series and am thinking of having them bound for my personal library. It occurs to me that your office may have prepared an index, or that there may be one already published and available. If this is the case, I would like to have copies for binding with the magazines.

E. O. Harder

In the December, 1953 and December, 1954 issues of the CONSERVATIONIST you will find indexes of all the material published during the year. We intend to continue publishing an index, by subject as well as title, in the December issue of the magazine each year. *C. H. G.*

* * * *

HYACINTH CONTROL

Minden

I have read the article *Hyacinth Control Report in* the May-June issue of the CONSERVATIONIST and find it enlightening and interesting. I know my Lake Bistineau rom the ICRR bridges to Toulon Bayou around to Shreveport Pond and back to the Bossier Parish side; it is all just about free rom the hyacinth. Made the rounds only ast Wednesday finding good fishing water everywhere and noticed the absence of hyacinths.

—David W. Thomas

* * * *

WATER HAZARDS

New Orleans

I think it would be a good thing if somehing were done to remove the water hazrds that threaten modern boatmen. With today's fast motors, underwater obstacles, uch as logs, tree branches, and sawed-off ilings, are a deadly threat to sportsmen. lso, boat passages under bridges that are used only by small boats such as speed hulls and ships are often not marked, and these passages are often made very dangerous by pilings that are cut off just below the surface of the water.

As far as I have been able to learn, there is no law governing water-ways in this class. Of course, I realize that when a person is operating a boat in strange waters it is his responsibility to travel at a safe speed and use caution, but I think it is the moral responsibility of everyone to overcome hazards like these for the safety of the people.

—George Fiegenschue

We agree with you that underwater obstructions are always a threat to any boat user. There are so many of these even in a restricted locality that we are afraid it would be futile to try and remove them all. However, there are key danger spots in almost every area that well deserve attention. I think that the removal of these underwater obstructions, or their marking so as to be visible to boatsmen, would be an excellent project for your local sportmen's club. *—C. H. G.*

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IS A DEAD CRAB EDIBLE?

New Orleans

I would like some information as to how to keep crabs alive and whether or not they are safe to eat after they have died before boiling. We have caught crabs at Grand Isle and iced them up and then found about half of them dead by the time we got back to New Orleans.

—S. D. Copeland

Crabs taken in salt water die faster than those taken in fresh water for two chief reasons:

1. Salt water crabs are mostly adult females, many of which have been weakened by spawning activities.

2. When crabs from salt water dry, salt crystals form on the gills, preventing oxygen exchange. Icing of crabs tends to prevent death from both of the above reasons.

It is a good practice to discard all dead crabs because they decompose rapidly after death. Bacteria and enzymes can easily get from the thin stomach walls into the tissues of the crab. However, if crabs are iced in the same manner as fish and shrimp, with alternatnig layers of ice and crabs so that they are kept near the freezing point in a state of suspended animation, or if they are actualy killed by the ice and kept at this low temperature, the bacteria and enzymes causing the decomposition will be held in check, and such iced crabs can be eaten as any other iced seafoods.

—Percy Viosca, Jr.

Biologist, Commercial Seafoods Division

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DRAINAGE

Monroe

I take my hat off to the LOUISIANA CONSERVATIONIST for the stand it takes on the drainage situation. If this drainage situation is not stopped, and quickly, north Louisiana will be ruined as far as hunting and fishing is concerned.

Boeuf River has already been drained, and now Congress has appropriated millions of dollars to drain Bayou Macon, Tensas River and Bayou Bartholomew.

It seems too foolish to drain all the land dry when we are in the middle of one of the biggest droughts the country has ever known. The situation is so bad that thousands of dollars are being spent on rainmakers to induce rain.

If Congress continues to appropriate funds to drain our swamps and other natural reservoirs and to permit the timber interests to denude the lands, north Louisiana will be just like the state of Texas; we will have nothing but dust storms and droughts.

What can a person like myself do to help stop this drainage?

—Alden T. Shotwell, Jr.

That's a good question! Probably the best thing would be for him to keep himself as well informed on all matters pertaining to drainage and river basin work as possible, and to try to spread that knowledge to as many persons as possible. I think the problem hinges mainly on ignorance of the general public as to the actual causes and effects of drainage projects.

We certainly feel that much of the drainage in the past has been unwise, just as we realize that some of it is absolutely necessary. We feel that the public is going to become acutely aware of the value of water within the next few years, and it is a shame that we can't coordinate activities in order to take advantage of the water that we do have. *—C. H. G.*

* * * *

BLOOD BAIT

Effie

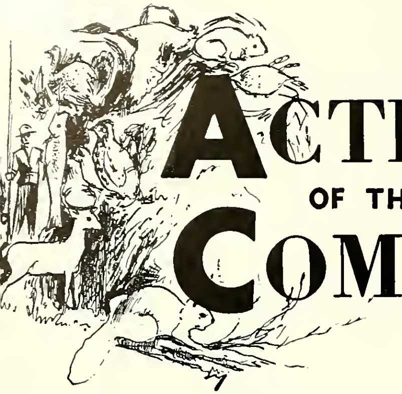
In your July-August issue you asked for a recipe for bloodbait for catfish. Well, I have found that to get blood to the right consistency it is necessary to clot the blood. To do so, take some beef blood, put into a container and let it chill until clotted hard. Remove, cut into desired pieces, and there is your bloodbait.

—Burton Wiley

New Orleans

In answer to the man from Lake Providence who requested a recipe for blood bait recently in this column, the following was in *Field & Stream* about two months ago: "To make chicken-blood bait that will stay on the hook, put a pint of warm chicken blood in a jar and stir in a couple of tablespoonsful of casein glue. As soon as the glue is thoroughly dissolved, pour the blood in shallow pans to cool. The glue will set and make a tough, durable blood bait. Cut it in strips about three inches long and a half-inch wide."

—A. J. McClane



ACTION OF THE COMMISSION

MAY 24, 1955 MEETING IN HOUMA, LA.

Concerning a resolution passed by the House of Representatives requesting the Commission to refrain from enforcing regulations on mesh sizes and the use of wings and leaders on nets in the Atchafalaya floodway, Director Young was instructed to write the police jury presidents and/or secretaries requesting their opinions on the intent of the resolution.

No action was given in the case of Ranger James Hamilton, and the action of suspending Ranger John Francois for 60 days by Director Young was upheld.

The proposed deep water channel from Bayou Lafourche to Venice to be dug by the Corps of Engineers was opposed by the Commission.

Adopted and approved were the Fish and Game Division plans for the proper management of Lake Bistineau, located in Bossier, Webster and Bienville parishes.

A resolution from the Plaquemines Parish police jury requesting the closing of Lake Hermitage to commercial fishing was denied, and the Commission asked that a study of the lake be conducted by the Commercial Seafood Division.

Research contracts with Louisiana State University and Tulane University were renewed for another year.

Surface leases on Pass-a-Loutre with the Shell Oil Company and the California Company were approved by the Commission, provided the area be restored, the canals dammed when not in use and no drilling conducted during the duck season.

Bids on eight Chris-Craft boats were opened and forwarded to the Division of Administration for purchase.

An ordinance by the Natchitoches Parish police jury to negotiate contracts with local fishermen removing fish from Cane River was approved.

Permission was granted for the Natchez Gravel Co. to remove gravel, by dredging, from the Ouachita River six miles north of the Harrisonburg locks.

Following a survey on the effects of seismic shots in the Gulf by Robert Lee Eddy, Jr., chief of the Commercial Seafoods Division, and by Dr. Lyle S. St. Amant, chief biologist, Oyster and Water Bottoms Division, the Magnolia Petroleum Co. was given approval to shoot charges up to 1,000 pounds in the Gulf of Mexico.

Director Young was authorized to enter into an authorized agreement with the Civil Defense Agency to set up a statewide radio system if requirements and restrictions permit.

An application of the Sun Oil Co. to conduct seismic work on Marsh Island was approved, provided no geophysical operations were conducted between October and March and that approval was granted by the Russell-Sage Foundation.

The Commission voted to retain control of Allen Dam in Natchitoches Parish and "operate it under sound biological procedures".

One-half the cost of completing the wildlife museum at L. S. U. will be borne by funds from Rockefeller Refuge, according to Commission vote. The cost will approximate $9,000 for Wild Life and Fisheries.

Director Young was authorized to use his judgment in the purchase of 160 acres of land in Vermilion Parish to be used as a public shooting grounds site if the area were suitable and money available.

JUNE 28, 1955 MEETING IN NEW ORLEANS, LA.

Following a lengthy discussion concerning menhaden operations off Grand Isle, the following was declared a sanctuary: That area bounded by the Livingston Lighthouse to the seabuoy, then southwesterly to the Caminada Pass light, which includes an area two miles offshore and about seven miles long.

According to a reciprocal agreement between the State of Louisiana and the State of Mississippi, fishing licenses from either state will be recognized in the following bodies of water: Glasscock Chute, Deer Park Bend, Old River, Giles Bend, Natchez Bend, Coles Creek, Rodney Bend, Bondurant Bend, Yucatan Bend, Palmyra Island, Palmyra Lake, Bedford Island, Centennial Lake, Paw Paw Bend, Eagle Lake, Albemarle Bend, Old River in East Carroll Parish, Louisiana Bend in East Carroll Parish and Hartime Bend.

The Commission voted to re-advertise for bids for the construction of a Headquarters building on Marsh Island, since all bids exceeded monies available for the project.

An application from Sand and Shells, Inc., to dredge shells from Lake Pontchartrain was approved.

John L. McGee, acting chief of the Enforcement Division, was named "Chief Division of Enforcement".

The following hunting seasons were set by the Commission (all dates inclusive): Quail, November 24-February 15; squirrels October-January 1; rabbits, October 1-January 31; bear, December 16-31; doves recommended split season—first half to begin September 15 and second half end January 10; ducks, recommended if 60-day season to open November 5 and close January 3, if 55-day season to open November 11 and close January 4, if split season (less than 55 days) first half to close November 27 and second half to end January 10, bag limit eight, possession limit eight; rails and gallinules, recommended to begin October 1 and continue as many days as allowed snipe and woodcock, as many days as allowed and latest closing date; deer, found elsewhere in this issue.

The plans to manage Lake Bistineau for improved fishing and waterfowl shooting were approved, again, in their entirety.

The Commission approved decals fo automobiles and boats, and Director Young was instructed to obtain an opinion from the Attorney General setting forth whethe or not law enforcement cars should b marked.

DOVE HUNTERS

Remember——

Season open at NOON on Sept. 16.

Bag limit is eight.

Possession limit is eight.

To plug your gun.

To take plenty of shells and alibis.

Bayou Browsing

Two and a half years and 27 issues of the Louisiana CONSERVATIONIST ago I sat here doing my first bit of "Bayou Browsing." This is the last!

Those two and a half years have seen tremendous changes in the outdoor picture in Louisiana. The Louisiana Wild Life and Fisheries Commission has come along at double-time pace during this period. Great strides have been made toward better management of your wildlife and fisheries resources. Even greater ones are in prospect for the future. The program is planned on a long range basis, the only practical method of resource management. Your Commission has accomplished, in this short time, far more than have other state commissions in a score of years.

I feel that the CONSERVATIONIST has progressed, too; that we have a magazine to be proud of. Many, many people have contributed toward this, and to them I am deeply appreciative. I know that our publication will continue to grow in quality and in scope, and that you will continue to give it your support.

By the time you read this the Greshams will be operating out of Black Lake—but not *in* it, we hope. I am going into business with Lee and Jack Apperson at Wood's Lodge, Campti, Louisiana. And if you're interested in hunting and fishing in Mexico, we can handle that, too. End of commercial. Working for you on the CONSERVATIONIST has been great, and we'll miss it. But we'll be seeing you.

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The next time you get a haircut ask your barber if he's getting the CONSERVATIONIST at his shop. He should be, since some 1800 were placed on the mailing list beginning with the July-August issue. In case your shop isn't getting it have the barber drop us a note. We figure that this is one place of business that all men frequent at one time or another, thus should be a good spot to have the magazine available.

* * * * *

Products you should know about dept.: The whole line of Shakespeare "Glaskyd" reels, designed especially for use with monofilament. This new fiber glass material will stand the great pressures built up by the stretchable nylon line that would cause conventional reel flanges to fail and freeze. Six reels in the line, from the 8.3 oz. light casting job to the 15 oz. star drag salt-water model, offer a wide choice. Remarkable feature is the price—from $9.95 to a top of $15.00. A lot of reel for the money—But if you've gotta have the best you might check on the Ambassadeur 5000 which is being imported from Sweden. One of the Swedish Record line of reels, this one combines free spool, level wind, star drag, centrifugal brake, and lure weight control. Can you think of anything else? A. B. Urfabriken, the manufacturer, has a background of watchmaking, and the Ambassadeur is made with the same precision. A beautiful product, ideal for fresh or salt water casting. All seven people whom I've seen use one have been walking testimonials to it. It's a worth-the-money luxury item at $45.00, complete in leather case, with oil and spare parts. If you can't afford it, don't look at this reel. You'll be robbin' the baby's piggy bank—Polaroid sun glasses aren't new, but I'm surprised at the number of fishermen who've never heard of them. Polaroid lenses are made in such a way that *reflected* light is filtered out but direct rays go through. You'll be amazed at how Polaroids will kill the reflected glare on water and let you see what's below the surface. Many inexpensive models are made by American Optical Company.

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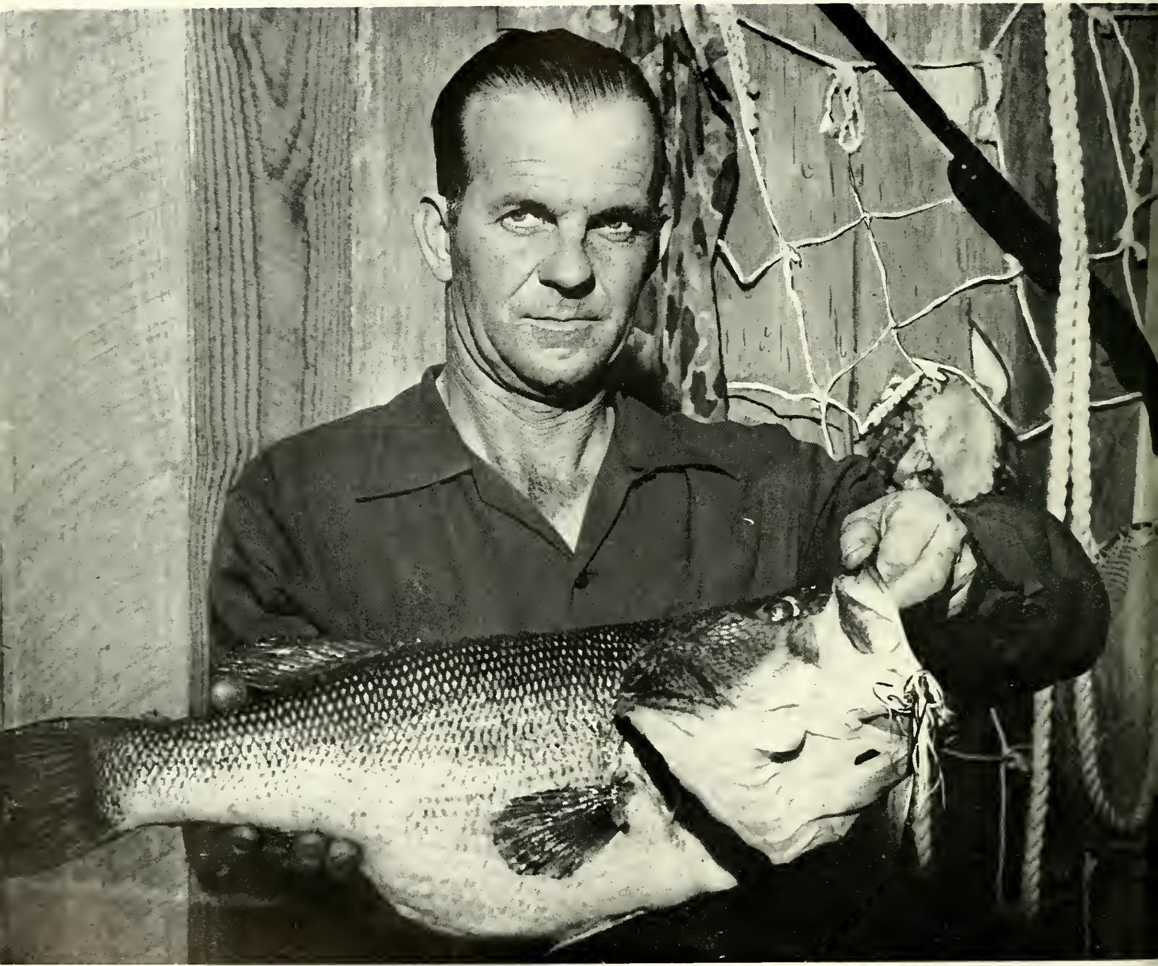
The Commission is rapidly putting into operation a statewide radio network which will have no peer in the nation. It will link all phases of the department's operations together and make for much greater efficiency. Planes, boats and automobiles can be in immediate contact with each other, with the main office in New Orleans, or with any of the district offices. We'll give you full coverage on this new development soon.

* * * * *

Among the groups which swung into action behind the "weather ship for the Gulf" movement, which was initiated by the Wild Life and Fisheries Commission, was the newly organized Grand Isle Women's Club. An active group of this type can be of much benefit to the Isle.

—C.H.G.



NEW LOUISIANA BASS RECORD. Leon Amadee, of 4760 Baton Rouge Ave., Baton Rouge, holds the fine largemouth which he took from False River on January 29, 1955 on a Helldiver. This 8-pound 15-ounce lunker will replace the 8-12 fish caught by Duncan Galloway as the biggest bass taken in Louisiana. Who'll make it nine?

LOUISIANA STATE UNIVERSITY LIBRARY